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ABSTRACT

The author reviews the literature on code switching (use of two languages within a turn of speaking) as part of the conversational speech in normal and retarded individuals, presents data on language interaction in the speech of seven developmentally disabled persons, and discusses the implications of these comparisons for program planning with Spanish/English developmentally disabled children. Research is seen to show that children's code switching cannot be attributed solely to lack of language differentiation. From a study focusing on the incidence, structure, and function of code switching in seven developmentally disabled children and adults it was found that ethnicity of the conversationalists, syntactic structure, and conversational functions seem to interact in the normal way for these speakers, despite their handicapping condition. Implications of findings for the education of exceptional children include that linguistic assessment should tap the child's communicative competence as well as formal linguistic structures, since a number of sociolinguistic skills develop along with sophistication in using grammar; that training programs which are based on the child's knowledge of social rules for language use will be more likely to be successful than those which violate these rules; that educational plans should consider patterns of language use in the child's community and the family's concern for language maintenance in school placement decisions; that the pattern of each individual's communicative skills must be the deciding factor for where to start in any language training program; and that the foundation in normal language development on which language intervention programs for exceptional children are based will remain rather shaky. (SB)

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Communicative competence in Spanish/English Developmentally Disabled Persons

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Introduction

Families and educators of developmentally disabled children from the Hispanic community face many difficult decisions in designing educational plans. Perhaps one of the most difficult concerns the role of Spanish and English. Although families may be concerned about Spanish language maintenance, until recently, the intersection of special education programs with bilingual curricula was not very satisfactory (Figueroa, 1980).

The scarcity of programs emphasizing Spanish language maintenance in special education is probably related to what McLaughlin (1978, following Stewart 1971) dubbed the "single-space theory" of language development, as applied to developmentally disabled persons. This theory holds that "only one language code" can be learned to perfection. Although this theory seems clearly false for normally developing bilinguals, as McLaughlin and others have pointed out (see, e.g., Padilla, 1977; Redlinger, 1979), for developmentally disabled children, a monolingual (English?) environment may be encouraged in the belief that such children will be further delayed by the mental space occupied by another language.

A second motive for monolingual programming concerns language differentiation. Even for children developing normally, lack of separation between the two languages in the child's environment is thought to produce rather confused children who speak neither language adequately, but instead, a "hybrid mixture" of the two. If normal children are confused by such a situation, it is reasoned, all the more so would be those who are experiencing developmental problems. Code-switching, which is defined as "the use of two...languages within a turn of speaking or at turn-taking points"(Silva-Corvalán, 1980) is popularly thought to be detrimental to language development, even though there are large Puerto Rican and Chicano populations for whom code-switching is a marker of ethnic identity (Poplack, 1979; Elías-Olivares, 1975).

In this paper, I will concentrate on code-switching as a feature of conversational speech in normal and mentally retarded persons. I will first review the available literature on this kind of language behavior...

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in normal individuals, both adults and children, and later present data on language interaction in the speech of seven developmentally disabled persons, three children and four adults. Finally, I will discuss the implications of these comparisons for program planning with Spanish/English developmentally disabled children.

Before addressing these central points, I wish to emphasize that program decisions can only be made on an individual basis, taking into account a number of factors, of which Spanish/English language background is only one. Accompanying physical handicaps, accurately assessed levels of cognitive functioning, and social skills are also very important. Caution in designing bilingual special education programs is urged by the fact that developmentally disabled persons as a whole are more prone to speech and language disorders than are normally developing individuals (Keane, 1972). But, it is also true that within a diagnostic category ("mentally retarded") or educational population ("bilingual"), a wide range of linguistic skills may be found (Greenlee, 1980). Although there has been relatively more research on structural features of language in the developmentally disabled than on conversational functions, Bedrosian & Prutting's recent investigation of retarded adults' conversations suggests that communicative performance of many individuals in this population has been underestimated, although as a whole, the mentally retarded do not constitute "a homogeneous population" (Bedrosian & Prutting, 1978).

A further word of caution concerns the need for information on Spanish language development, from both monolingual and bilingual children. Those studies which have documented children's acquisition of Spanish have tended to focus on structural features, rather than on emerging control of sociolinguistic functions (Toronto, 1976; Padilla, 1978; Gonzalez, 1970). Developmental studies of Spanish/English bilingualism, although few in number, do not support the notion of linguistic or cognitive delay due to bilingualism (Fantini, 1974; Padilla, 1978; Padilla & Lindholm, 1976; Huerta, 1977,1980). However, the degree to which normal children may vary in conversational use of their two linguistic codes remains a largely unexplored research area.

Studies of Code-Switching in Normal Individuals

Adults

Studies of code-switching, both within a sentence or within a discourse (extra-sentential) have concentrated either on the grammatical characteristics of language shifts (Aguirre, 1978; Timm, 1975; Pfaff, 1979) or on the relationship of code-switching to other conversational variables such as participants, topic, and setting (Gumperz & Hernández-Chavez, 1975). Grammatical studies have been concerned with identifying possible and impossible switching points within the sentence, as well as parts of speech most vulnerable to switching. A general finding has been that nouns are among the parts of speech most often shifted, as in, e.g., "Cojo mi GARLIC puro." (I take my garlic pure.) (Poplack, 1978:11; Wentz, 1977; Timm, 1975).[1]

Functional analyses of adult code-switching have found that this linguistic behavior may serve to mark direct quotations or to express formulaic sayings, such as proverbs and interjections. Code-switches may also be used to clarify or to provide emphasis for a message given in another language. In group settings, code-switches may serve to indicate which of several listeners is being addressed. (Silva-Corvalán, 1980). Poplack (1978:26) has noted that while it is possible to gauge the probability of code-switching for an individual, switching is not 100% predictable, just as monolingual speakers' specific choices of grammatical structure may be unpredictable.

Poplack has considered both the structure and function of adult code-switching in the New York City Puerto Rican community (Poplack, 1978; 1979). She has shown that both amount and type of code-switching are variable. In determining the type of switch, relative proficiency in Spanish and English was an important factor, but also crucial was the ethnic identity of the conversationalists. Less fluent bilinguals used more peripheral switches (such as interjections, tag questions, or fillers) while more balanced bilinguals integrated switched items closely into grammatical structure, shifting several possible constituents. Nevertheless, fluent code-switchers changed from the more integrated style to peripheral switching when conversing with a non-Puerto Rican interviewer who spoke Spanish fluently. Significantly, with the non-group member, a large percentage of switches were single nouns, while nouns made up less than a quarter of all switches with an in-group member.

Illustrations of 'intimate' and 'peripheral' switches are provided in Example 1 (from Poplack, 1979:17-18):[2]

EXAMPLE 1

a. 'Intimate' code-switching

Why make Carol SENTARSE ATRAS PA' QUE (sit in the back so) everybody has to move PA' QUE SE SALGA (for her to get out)?

b. 'Peripheral' code-switching

Salían en sus carros y en sus SNOWMOBILES.
(They would go out in their cars and in their snowmobiles).

Despite the variability of switching behavior, Poplack has shown that fluent code-switching reflects sophisticated knowledge of both English and Spanish grammar, since certain grammatical constraints are rarely, if ever, violated. Ironically, it is those speakers whose switching might be most negatively evaluated by out-group members---those who use intra-sentential shifts---who show the most evidence of grammatical knowledge (Poplack, 1979).

Silva-Corvalán (1980) described another pattern of language interaction, which she called "code-shifting", in Chicano teenagers living in Los Angeles. For these young bilinguals, shifts to English in Spanish conversation were judged to be the result of vocabulary gaps, memory lapses, and actual lack of Spanish proficiency, since shifts were often preceded by hesitations and editing phenomena ("uh", "este", etc.). Moreover, shifts followed grammatical rules of English, but violated grammatical constraints of Spanish. Code-shifting shared both functional and structural features with Poplack's peripheral type of code-switching.

Children

Research on children's code-switching has been concerned with structural and functional characteristics identified in study of adult switching. In addition, developmental research has addressed the question of language differentiation, i.e. is code-switching reflective of a single underlying language system which becomes separated during the early stages of language development, OR are the two languages separate from the beginning?

As it turns out, neither alternative is perfectly supported by research to date, probably since children of different ages were studied using different research methods. Lindholm & Padilla (1978) found that Chicano children 2.0-6.4 used less than 3% mixing in Spanish/English language acquisition. However, this low figure is partially attributable to methods of data collection, in which two "monolingual" investigators

conversed with the children. Padilla & Lindholm concluded that "bilingual children learn each of their two languages separately and do not transfer the structures of one to the other" (1976:141).

Redlinger & Park (1980) have challenged this conclusion, noting that the amount of language interaction varies from child to child, and such interaction decreases with the child's linguistic sophistication. Of four very young children acquiring German along with another language (including Spanish for one child), these authors found that one two-year-old used mixing in almost a third of his utterances, while a somewhat older child (2.4) used only 12% mixing. Redlinger & Park argue that differentiation is a gradual process in the bilingual child, who begins with a single linguistic system.

Huerta (1977, 1980) investigated Spanish/English bilingualism longitudinally in a child learning a code-switched variety as his native language. Christopher, the child, showed equivalent development to that of monolingual learners of either language. Furthermore, he was able to use code-switching for several sociolinguistic functions, such as addressee specification and direct quotes, from an early stage. By about three-and-a-half, Christopher was able to comment on his two languages and to ask for translations (also noted as early skills by Fantini, 1974). Huerta concluded that, "there seems to be no evidence to substantiate the claim that code-switching leads to any kind of "confusion" or "stalemate" in a child's language development" (1977:23).

The community in which the bilingual child grows up and its attitudes toward code-switching would be expected to have an effect on children's use of code-switching. Only a glimpse of possible effects have been seen so far. E. García (1980), in a very large-scale study, found that children's Spanish in the Southwest U.S.A. included relatively more switches to English than the Spanish spoken by children in New York or the Midwest. It seems quite likely that the observed differences in children's Spanish reflect parallel differences in the adult community.

Given that children clearly use code-switching (although everyone does not agree on how <u>much</u> they use it), what are salient structural and functional characteristics of such shifts? Regarding grammatical structure, for children as well as adults, nouns and noun phrases are frequently switched (Lindholm & Padilla, 1978; McClure, 1977). Zentella (in press, 1981) has shown that Puerto Rican children in elementary classrooms used more noun shifts and loan words in interviews than they did in more casual conversations, in a similar way to adults studied by Poplack (1979).

Bilingual children seem to learn to shift languages for sociolinguistic purposes much as the monolingual child learns to pay attention to speech styles and politeness rules, changing the style of speech as required by the conversational setting (Andersen, 1977; Ervin-Tripp & Mitchell-Kernan, 1977; Ochs & Schieffelin, 1979). Of the three conversational parameters---participants, topic, and location, participant language preference seems most predictive of early code-switching (Genishi, 1976). For many children, while Spanish and English are used at home, English predominates at school (McClure, 1977). Children as young as three years of age are able to use code-switches for clarification or addressee specification. Older, elementary school children may use stylistic code-switches for many of the same functions earlier identified for adults, e.g., getting attention, quoting others, or for emphasis. Other functions code-switching serves are to signal "modality shifts" from conversation to story-telling, or to accompany "affect-loaded" messages, such as threats or cariño (McClure & Wentz, 1975; Cf. Cazden et. al., 1980). Example 2 shows an inter-turn switch in which an older child expresses sympathy in an "affectionate" way in Spanish (from McClure, 1977:19).

EXAMPLE 2

P (age 9): Stop it, Roli. You're stupid.

R (her brother, age 3): You stupid Pat.

P: Don't hit me!

(R trips and begins to cry)

P: Ay, Roli! Mi hijito, ¿qué pasó? (Oh, R! Honey, what happened?)

Summary

Although far less research has been done on children's code-switching than on that of adults, it seems clear that children's code-switching cannot be attributed solely to a lack of language differentiation, even in the environment most suspected of causing such problems (Huerta, 1977). Structural features of children's code-switching are shared with adult speakers, i.e., prevalence of noun or noun-phrase shifts, at least in interview settings. Many of the conversational functions of code-switching in adult talk have been observed in elementary-aged children. The fact that even three-year-olds can provide a translation in response to a request for clarification argues not only for the formal differentiation of the child's two languages, but also for attention to conversational principles of cooperation which are

developing concurrently. Since bilingual children use both Spanish and English as "an integrated communication resource," monolingual assessment procedures may ignore significant aspects of their sociolinguistic development (M. García, 1980). As will be seen, these sociolinguistic skills may also have been underestimated in the language of the developmentally disabled persons whose code-switching behavior will be discussed next.

Code-switching in developmentally disabled persons

Previous research

Only a few notes on bilingualism can be found in the literature on mental retardation, except for those works which discuss the effects of Spanish native language and ethnicity on validity of assessment measures (e.g., Mercer, 1973; Figueroa, 1980). Henshel (1972) investigated social aspects of life in adult Anglo and Chicano retardates. She commented that one woman, Irma, "usually expressed herself in two-word phrases" with "inability to articulate adequately in either English or Spanish" (p. 80); however, another woman, Elisa, "chattered fluently in either English or Spanish" (p. 27).

Present study

Spanish and English conversations of several developmentally disabled persons were recorded in the present investigation. My objective was to obtain bilingual conversations, as informal as possible, in which code-switching might be used. Questions addressed in this research were the following:

1. To what extent do bilingual developmentally disabled persons use language-mixing in the presence of an out-group member? How does the incidence of intra-turn code-switching in such conversations compare with data previously discussed from normally-developing individuals?

2. What are the structural features of code-switching in these developmentally disabled individuals? Are constituents switched similar to those observed in interviews with normal individuals?

3. For what purposes or functions do developmentally disabled persons use code-switching and how do these compare to motivations for code-switching in normally-developing persons?

4. Can language-switching in developmentally disabled persons be accounted for by a lack of language proficiency?

Participants Criteria for selecting developmentally disabled conversationalists were expressive ability in Spanish and English,

current participation in a program of services for retarded citizens, and no significant physical or hearing impairment which would interfere with speech.[3] For the purposes of this paper, I will be discussing approximately seven hours of conversational speech from seven individuals who are briefly described in Table 1.

TABLE 1 here

As Table 1 shows, participants differed widely, not only in their chronological age, but in their range of estimated mental functioning as well.[4] Although all participants conversed with the researcher, family members and peers also talked with them during the sessions. For Zoe, one of the older participants, code-switching was analyzed from two sessions: (1) a dyadic conversation with the researcher, and (2) a three-way conversation, recorded on the same day, in which Zoe was talking with Jesus, as well as with the researcher. Conversational data for Mike comes from a free-wheeling session in which the researcher, Jesus, and an English-dominant young man named George (whose data is not reported here) all took part. During the sessions, the participants talked about their daily activities and their families or played with some simple materials: e.g., a toy house with paper "people", a miniature doctor's bag, three picture books, and a puzzle. In addition, all participants except Oswaldo were asked to retell a recorded story designed to elicit quotative switching. Data from the story-retelling will be discussed below.

Language Preference Turning first to language preference in the participants' conversations, observe Table 2.

TABLE 2 here

Table 2 provides frequency data on the use of Spanish, English, and mixed (intra-turn) conversational turns for each of the seven participants. As can be seen, Jesus and Zoe used relatively more Spanish, in conversation with each other, than other participants used. For everyone else, Spanish made up less than half of the conversational turns. The older participants, Jesus, Zoe, and Mike, also showed the highest percentages of code-switching (between 11 and 15%), while Freida used no switches at all. To a certain extent, these figures reflect differences in relative proficiency in expressive Spanish.

Although Oswaldo speaks Spanish quite well, Walter and his brother preferred to speak English, addressing their monolingual mother in Spanish. Neither Freida nor Ricky demonstrated much expressive Spanish; all but three of Freida's Spanish turns were immediate imitations, while Ricky's Spanish was generally in response to his mother's elicitation. Elicitation techniques Ricky's mother used are strikingly similar to those reported by García & Carrasco, in press 1981) in bilingual discourse of mothers and their preschool-aged children. Although Ricky's mother was obviously concerned about maintaining his Spanish, Ricky addressed his siblings as well as his mother and the researcher in English. Some typical elicitation sequences are shown in Examples 3 and 4. In both examples, his mother is requesting translations, but only in the latter example is Ricky successful in providing one.

EXAMPLE 3 (Ricky A-99)[5]

Mother and Ricky are looking at a picture book together.

M:¿Y estos? (And (what are) these?)

R: Trees.

M:¿Y en mejicano? (And in Mexican?)

R: Flowers.

M: No...

EXAMPLE 4 (Ricky 2A-52)

M: What did we do yesterday at the park?

R: What?

M: Do you remember yesterday? What did we do?

R: What?

M: When we went to the park yesterday?

R (interrupting): Ate.....fish!

M: We ate fish! What did we do in Spanish?

R: Comer pescado. (Eat fish.)

In conversations with older participants (Zoe, Jesus, and Mike), such elicitations were comparatively rare, although comments on language choice certainly did occur. Illustrations of these comments are shown in Examples 5, 6, and 7.

EXAMPLE 5 (Zoe & Researcher, 1A-073)

R: Tu-¿tu le conoces bien a Jesus? (Do you know J. well?)

Z: Uh-huh (yes).

R: ¿Cómo le conoces a él? (How do you know him?)

Z: Muy bien. Lo conozco porque yo y él, yo y él, yo y él, hablamos SPANISH todo lo tiempo TOGETHER.

(Very well. I know him, because I and he, I and he, I and he, we speak Spanish together all the time.)

EXAMPLE 6 (Zoe & Jesus, 2A-J165)

Jesus has been asking Zoe to get him something to drink, and she is annoyed, but nevertheless is getting ready to go for something.

J (to Z): Agua, dame agua. (Water, give me some water.)

Z (to R): ¿Tu? ((How 'bout) you?)

R: Está bien, está bien. (It's OK, it's OK.)

J: (echoing): Está bien. (It's OK.)

Z (slamming the door as she leaves the room, to J): Si quieres COKE, mierda! (If you want Coke, shit!)

R (surprised tone): Ooh!

J (to R): Ah, ooh. That's a bad word.

R: What?

J: What she said. Something in Spanish. It's terrible.

EXAMPLE 7 (Mike & Freida, F-239)

Mike and Freida are looking at a picture book in which a cartoon character has one yellow tooth.

F: An, uh, he got a little teeth. (Laughs)

M: Espérate, espérate A MINUTE, uh, no tiene, no tiene ni muelas él, no tiene ni muelas? (Wait, wait a minute, doesn't he, doesn't he have any teeth, doesn't he have any teeth?)

R: Bueno, tiene una muela. (Well, he has a tooth.)

F: (simultaneously) Color! (English)

M: No tiene muela. (He doesn't have any tooth.)

R: ¿Qué, de qué color tiene esa muela? (What, what color is that tooth that he has?)

M: No tiene muela él. (He doesn't <u>have</u> a tooth.)

R: Yellow!

R (to M): What?

M: I said "NO TIENE MUELAS." So that's what I mean, in Spanish. (I said, "He doesn't have teeth." etc.)

Examples 6 and 7 also show language switching for various purposes in older participants' conversations. Functions of code-switching will be discussed more fully below, but a few preliminary comments on switching in these examples are worth inserting at this point. In Example 6, Jesus switches according to addressee, using English with the Anglo researcher to comment on Zoe's Spanish insult. He appears to believe that R. has not understood the "bad word", although earlier he had been talking to her in Spanish as well as in English. In Example 7, Mike is insisting on his point, which he clarifies through the use of self-quotation and a language shift. He seems to think that R. does not share his point of view because she has not understood his Spanish, even though previous conversation has been conducted in that language. Both Examples 6 and 7 thus reflect concessions to (perceived) language preference of the person addressed, which is an early feature of children's code-switching (Genishi, 1976).

Going back to the original research questions, keeping in mind individual differences among the participants, how do these developmentally disabled persons compare with normal individuals in the use of code-switching?

1. Incidence As Table 2 shows, older speakers who were more fluent in Spanish were also those who used proportionately more code-switching. The percentages of code-switching used by these developmentally disabled speakers fall within the range of variation of normal individuals; in fact, the percentages seen in Table 2 are much smaller (I believe) than would be expected by those who would account for such mixes through hybridization of the two languages.

The relatively low incidence of code-switching in these developmentally disabled speakers seems at least partially attributable to the effects of interviewer ethnicity. Zoe's conversation with the researcher showed less code-switching and more English than in the three-way conversation in which another in-group member was present---8.6% versus 11%, which suggests that similar effects of interviewer ethnicity are relevant for both normal and developmentally disabled persons.

Table 3 further documents these effects. This table shows the distribution of code-switching according to language. For example, the column marked Spanish means that the speaker inserted Spanish elements into an otherwise English turn of speaking.

TABLE 3 here

As can be seen, shifts into English were generally more frequent than switches into Spanish. Walter's turns constitute the only exception, but they are based on very small numbers (6 turns). Here again, the developmentally disabled subjects resemble normal speakers described in the literature; most of Pfaff's (1979:293) Chicano speakers showed a preponderance of switches to English, as did Puerto Rican school children in an interview setting (Zentella, in press).

Nevertheless, it is somewhat surprising that proportionately fewer switches to English were found in Zoe's dyadic conversation than in her conversation with Jesus; the hypothesized influence of interviewer ethnicity would have predicted just the opposite, i.e., more switches to English when speaking solely with the interviewer. Unelicited switches to Spanish certainly did occur when the participants were addressing the researcher; the three older speakers also spontaneously translated into Spanish remarks they had earlier made in English. Example 8 illustrates such a shift; in this example, Mike is telling the researcher about getting lost in a park, with both English and Spanish code-switches.

EXAMPLE 8 (Mike & Freida, B-130)

M: No tenía, no tenía dinero pa' gastar. No tenía nada, pa' comer. I WAS HUNGRY. (I didn't have, I didn't have any money to spend. I didn't have anything, to eat. I was hungry.)

R: Oh, gosh. That was scary, huh? Was it dark?

M: No, (it) was nice. PERO HABÍA ANIMALES TAMBIÉN. (But there were animals, too.)

R: Te dieron miedo? (Did they scare you?)

M: Oh, yeah.

2. Structural features Table 4 provides information on the grammatical features of both English and Spanish code-switches.

TABLE 4 here

Table 4 shows the number of turns which contained single word, phrasal, and sentential code-switches for each language.[6] In some speakers' conversations, both a single word and a phrasal shift to English were used in the same turn of speaking. These are listed in Table 4 in the "Both" column.

As can be seen, the most frequent type of code-switch consisted of a single English noun, both overall, and for all but

one of the individual speakers (Walter). Phrasal shifts which contained an entire sentence were more common in both languages than other types of phrasal code-switches. The least frequent category overall was that in which a single word other than a noun was switched. Nevertheless, some variation is seen among the speakers in Table 4 with regard to these general trends.

Zoe's dyadic conversation is (again) somewhat surprising, since it shows a closer balance between phrasal and single-word shifts to English than might have been expected. Although single words were often shifted in both Zoe's conversations, based on the data from normal speakers reviewed earlier, a proportionately greater incidence of such shifts would have been expected in the session with the Anglo researcher.

In general, the distributional data in Table 4 is in agreement with results of research on code-switching conducted by Pfaff (1979), Poplack (1978, 1979), and Lindholm & Padilla (1978): single noun switches are extremely common. Among noun switches included in Table 4, many were items which would be "low on a scale of translatability" (Poplack, 1979:18); such noun-insertions are not counted as code-switches by some investigators (see Poplack, 1978:23 for review of this issue). Examples from the developmentally disabled speakers are: T-shirt (Zoe), cornflakes (Jesus & Zoe), and snowman (Ricky). These noun-insertions seemed to be a function of domain or topic area (Fishman, 1972). For example, sports, TV programs, and medical terms were generally discussed in English or with English insertions. On the other hand, Ricky described the making of tamales with a comparatively long list of Spanish ingredients. The question of vocabulary gaps with regard to such items will be addressed in considering the fourth research question below.

3. Conversational functions Table 5 shows representative conversational functions among the seven developmentally disabled speakers. Examples of these functions, both within and across speaker turns, are given in Table 6.

Tables 5 and 6 here

As mentioned above and seen in Table 5, participants in the present study were generally responsive to contextual variables, such as the perceived language preference of their addressee and topic area. It was impossible to gauge the effects of location on

code-switching, since most participants were recorded in only one setting, usually a home.

While code-switching was used to insert formulaic expressions or interjections by all speakers, other types of conversational switching were observed in the speech of only a few participants. For example, only Oswaldo and Jesus consistently echoed others' code-switches. For these two, echolalia was a general feature of their expressive language, only coincidentally related to code-switching.

While most conversational functions were observed in naturalistic interviews, all participants except Oswaldo also were asked to perform a story-retelling task. In the story, which was recorded by native speakers of Spanish and English, one character always spoke English while the narrator and another character[7] always spoke Spanish. Immediately after listening to the story, each participant was asked to retell it to a conversational partner who had not been present during the playback. The text of the story was as follows (adapted from Marshall, 1976:22-30):

> Un sábado por la mañana, Jorge quería quedarse en la cama.
> (One Saturday morning, J. wanted to stay in bed.)
>
> Pero Marta quería ir de paseo al campo.
> (But M. wanted to go on a picnic to the country.)
>
> "Aquí viene Marta," pensó Jorge. (Here comes Martha, thought J.)
>
> Marta quería que Jorge se levantara. (M. wanted J. to get up.)
>
> "IT'S TIME TO GO ON OUR PICNIC," cantaba Marta. (..sang M.)
>
> Pero Jorge no se movía. (But J. didn't move.)
>
> Marta dijo, "I'M GONNA TICKLE YOU! IT'S PICNIC TIME. GET UP!"
> (M. said...)
>
> "Pero yo no voy a ese paseo," dijo Jorge.
> ("But I'm not going on that picnic," said J.)
>
> "YES, YOU ARE GOING," dijo la amiguita. (...said the little friend)
>
> "Yo me estoy divirtiendo," dijo Jorge. ("I'm enjoying myself,"
> said J.)
>
> (SNORING SOUND) hacía Marta, durmiendo.
>
> (SNORE, went M., sleeping.)

The story retelling task was most successful with two older speakers, Zoe & Mike, who were fluent code-switchers. Other speakers became distracted, or had difficulty remembering the story. Jesus was one of the latter; quotation in his speech occured in the course of conversation.

In contrast to quotation, nearly all participants used code-switching for emphasis or clarification. Many spontaneous translations seemed to serve the function of clarification. Significant changes in the conversational interaction, such as commands and questions, word-play, threats, and announcements were also sometimes accompanied by code-switching (see esp. Example 8 in Table 6).

Conversational functions of code-switches in the speech of these developmentally disabled individuals have been described qualitatively rather than quantitatively, since not every instance of code-switching in the data could be assigned a unique function. Despite the anecdotal nature of the data, speakers in this study show many similarities in use of code-switching to elementary-aged school children in McClure (1977); the list of functions is much the same for both groups.

4. Evidence on Language Proficiency For one of the speakers listed in Table 1, Ricky, many code-shifts could probably be attributed to vocabulary gaps or memory lapses; a fine-grained analysis of hesitations would also probably find that even for the fluent speakers, some code-switches were preceded by editing phenomena of the sort described by Silva-Corvalán (1980). It seems very likely that for terms learned in school (e.g., telephone numbers or colors) shifts into English occurred since the Spanish equivalents are not in the speakers' active vocabularies.

On the other hand, the fact that it was the more fluent Spanish speakers who produced the highest percentages of code-switching would argue that code-switching behavior is a sign of linguistic competence, rather than a lack thereof. Although Jesus showed some pragmatic lapses, e.g., he echoed frequently and sometimes switched topics inappropriately to the consternation of his listeners, even he used code-switching which bears structural and functional resemblance to this behavior in normal bilingual speakers.

In sum, answers to the three previous research questions concerning incidence, structure, and function of code-switching in these developmentally disabled individuals serve to show that their code-switching cannot be attributed to linguistic incompetence. In general, ethnicity of the conversationalists, syntactic structure, and conversational functions seem to interact in the normal way for these speakers, despite their handicapping condition.

I would stress that these results are based on the study of individuals who differ widely from one another, even in a very small subject population. Research reported above has been directed toward answering some general questions, but detailed answers to these questions may vary considerably. Nevertheless, the degree to which some developmentally disabled speakers are capable of becoming skilled in bilingual communication certainly seems to have been underestimated. It remains to be seen how we might assess such skills in a more accurate way, and what implications might be drawn, (once we know that the skills exist) for program planning.

Implications for Exceptional Children

1. Linguistic assessment should tap the child's communicative competence as well as formal linguistic structures, since a number of sociolinguistic skills develop along with sophistication in using grammar. The intimate relationship between code-switching and ethnicity of the addressee reviewed in this paper would argue that assessments are best carried out by professionals who are themselves members of the child's language community. If this is not possible, a spontaneous language sample should be collected of the target individual with family members or peers, while they jointly engage in a high-talk activity (preferrably NOT elicited translations); during the session, the observer would maintain a low profile or be absent altogether. Since information on the child's linguistic "normalcy" is crucially based on accurate descriptions of language interaction in his/her community, adult speech in such language samples would also be very useful. Miller (1978) has suggested a home language-use diary, which could also provide information on conversational parameters at work in the child's everyday talk.

2. Training programs which are based on the child's knowledge of social rules for language use will be more likely to be successful than those which violate these rules. Peer code-switching is part of the social rule system in bilingual individuals and it should not be evaluated negatively in the classroom. Retrieval of lexical items or translations on command can be quite difficult, even for bilingual adults, while tolerance of answers "en cualquier idioma" (Zentella, in press, 1981; Baca, 1974) have met with cooperation in bilingual classrooms. Knowing what "Say it in English" means requires not only code separation, but instant lexical retrieval and metalinguistic

knowledge of code names as well. The same three-year-old who can respond quite well to requests for translation in the form of "What?" or "¿Qué?" may find the instruction to "Say it in _____" very difficult. These facts should be considered in classroom expectations for developmentally disabled persons functioning at K-1 level.

3. Educational plans should consider patterns of language use in the child's community and the family's concern for language maintenance in school placement decisions. Consistent use of one language may be counter-indicated if it results in the child's loss of group membership, or inability to use a significant marker of ethnic identity.

4. Of course, the pattern of each individual's communicative skills must be the deciding factor for where to start in bilingual, or for that matter, any language training program. Many children may begin with no productive (i.e., expressive) language at all. For these children, program decisions would clearly be vastly different from those made for individuals such as Jesus, Zoe, or Mike.

Jesus' lack of pragmatic skills and echolalia are significant language problems in his conversations. In order to remediate these problems it would be important to know why echoes occur (e.g., does Jesus have limited auditory memory?). The fact that his echoes occur regardless of language makes an important difference in intervention strategies from those which would have been used if, for example, echoes were only found in Jesus' English conversations.

5. Finally, I would caution that until we have more data on simultaneous language acquisition of the sort which Huerta (1977, 1980) has provided, the foundation in normal language development on which language intervention programs for exceptional children are based will remain rather shaky. I would hope that this foundation will be strengthened both by linguistic researchers and by those involved in daily contact with exceptional children.

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Footnotes

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[1]In Poplack's original citations, Spanish is written in capitals, while lower-case letters are used for English. In this text, capitals will be used for switched items, regardless of language.

[2]The term 'intimate' comes from Poplack's research. 'Peripheral' is my own term for what she has called "emblematic" or "tag-switching".

[3]When speakers were recorded, I relied on verbal report of caretakers or teachers that participants met the desired criteria. Later on, when I was able to get results of cognitive and speech and language evaluation, for Zoe, audiometric screening in 1980 noted that she did not respond to tones above 4000 Hertz and seemed to show "depressed hearing thresholds bilaterally." Whether this audiological finding was indicative of fatigue or a cold or whether it indicated a true hearing loss, I have no positive information.

Mike's 1980 speech and language evaluation also makes mention of the need for audiological assessment, but no results of such an assessment are given.

[4]As can be seen in Table 1, I did not have access to records for some of the participants. The use of verbal IQ tests (such as the Peabody) seems particularly inappropriate with speakers from a Hispanic background. Other testing instruments may have produced a rather low estimate of cognitive functioning, e.g., the Stanford-Binet (see Figueroa, 1980 for a review of test bias).

[5]Numbers in parentheses refer to footage or turn-number in the transcripts of participants' conversations.

[6]In coding switched turns, multi-word utterances, such as Girl Scout Camp, lists (e.g., phone numbers or counting) and compound nouns (picnic table) were counted as phrasal switches. Many of these multi-word "lists" have been excluded from consideration by other authors (Cf. Poplack, 1979:36).Their inclusion may have artificially inflated the number of English phrasal shifts in Table 4.

[7]My thanks to Bill Klemme for doing an expert job at narration and in speaking tne role of Jorge.

Table 1: Description of Developmentally Disabled Participants and Recording Conditions

	Participant's Name	Age	Estimated Mental Functioning[a]	Co-conversationalists[b]	Time (Approximate)[c]
1.	Oswaldo	9	Moderate MR, MA=5.1 IQ 46(Merrill-Palmer)	Bilingual sister & Spanish-speaking mother	45 minutes
2.	Walter	11	"Mild MR"	Bilingual brother & Spanish-speaking mother	60 minutes
3.	Ricky	16	unknown	Bilingual sister, mother	75 minutes
4.	Freida	19	unknown	Mike[d]	60 minutes
5.	Zoe	24	Moderate MR IQ 41 (WAIS) MA=8.7 (PPVT)	a. Dyad with Researcher b. Jesus	75 minutes 40 minutes
6.	Jesus	36	Moderate MR (1978) IQ 33 (Stanford-Binet) IQ 56 (PPVT)	Zoe	45 minutes
7.	Mike	38	MA=5.3 (Stanford-Binet)	Jesus & George[d]	30 minutes

[a] For some participants, records of cognitive testing were not available. For all of the subjects, estimates of cognitive level are quite likely to be low (Mercer, 1973).

[b] All conversations included the presence of a Spanish-speaking Anglo researcher.

[c] For some participants, more lengthy recordings were made, but only the minutes noted have been analyzed.

[d] Mike was recorded both with Freida and with Jesus and George, a young man with Down's Syndrome who preferred to speak English. Structural features of Mike's language were analyzed only in the latter conversation.

Table 2: Frequency of Spanish, English, Mixed (Spanish-English) and Unintelligible Turns in Participants' Conversations

Name	Total N of Turns	Spanish N	Spanish %[b]	English N	English %	Mixed N	Mixed %	Unintelligible[a] N	Unintelligible %
1. Oswaldo	568	234	41.2	322	56.7	9	1.6	3	0.5
2. Walter	333	68	20.4	257	77.2	6	1.8	2	0.6
3. Ricky	729	188	25.8	477	65.4	44	6.0	20	2.7[a,b]
4. Freida	288	28	9.7	252	87.5	--	--	8	2.8
5. Zoe									
a. dyad	836	321	38.4	440	52.6	72	8.6	3	0.4
b. with Jesus	418	302	72.2	69	16.5	46	11.0	1	0.2[b]
6. Jesus	430	270	62.8	99	23.0	59	13.7	2	0.5
7. Mike	247	94	38.0	112	45.3	38	15.4	3	1.2[b]

[a] Unintelligible utterances were those which contained words or phrases which could not be glossed. For all participants except Ricky, unintelligible utterances were resolved by having a trained Mexican phonetician listen to those portions of the tapes. The fact that such procedures have not yet been carried out on Ricky's conversations probably accounts for the large number of utterances classed as unintelligible.

[b] Percentages may not sum to 100 due to rounding.

Table 3

Distribution of Participants' Code-Switching according to Language

	English		Spanish		Total
	N	%	N	%	
1. Oswaldo	7	77.8	2	22.2	9
2. Walter	2	33.3	4	66.7	6
3. Ricky	36	81.8	8	18.2	44
4. Freida	--		--		--
5. Zoe					
a. Dyad	58	80.5	14	19.4	72[a]
b. With Jesus	39	84.8	7	15.2	46
6. Jesus	45	76.3	14	23.7	59
7. Mike	28	73.7	10	26.3	38

[a]. Percentages do not sum to 100 due to rounding

Table 4: Structural features of Developmentally Disabled Participants' Code-Switching

	Switches to English					Switches to Spanish				Total
	Single words		Phrasal shifts		Both[a]	Single words		Phrasal shifts		
	N[b]	Other	Sentence	Other		N	Other	Sentence	Other	
1. Oswaldo	6	0	1	0	-	0	0	1	1	9
2. Walter	0	1	1	0	-	0	2	2	0	6
3. Ricky	28	1	3	2	2	5	1	0	2	44
4. Freida	--	-	-	-	-	-	-	-	-	-
5. Zoe										
a. Dyad	19	10	15	12	2	1	2	8	3	72
b. with J.	28	2	7	2		1	1	2	3	46
6. Jesus	19	4	12	9	1	1	2	8	3	59
7. Mike	13	1	5	6	3	0	2	6	2	38
Totals:	113	19	44	31	8	8	10	27	14	274

[a] In some turns, both single words and phrases were shifted, e.g. Mike (A-177) said the following:

Este es un SHOT, este es..THEY PUT YOU TO SLEEP, AND YOU DON'T FEEL NO PAIN.
(This is a shot, this is.., etc.)

[b] N here denotes "nouns", not "number".

Table 5: Conversational Functions of Code-Switching in Developmentally Disabled Speakers

Functions Observed[a]	Developmentally Disabled Speakers[b]					
	O	W	R	Z	J	W
1. Response to contextual variables						
a. Perceived language preference of addressee	x	x	x	x	x	x
b. Topic, or domain			x	x	x	x
c. Setting (could not evaluate)						
2. Formulaic expressions or interjections	x	x	x	x	x	x
3. Echoing Others' code-switching	x				x	
4. Quotation[c]	-			x	x	x
5. Emphasis or clarification of message		x		x	x	x
6. Translation		x	x	x	x	x
7. Commands or questions	x	x	x	x	x	x
8. Modality shifts, e.g., from conversation to announcement, threat		x		x	x	x

a. A single utterance may have more than one function, e.g., both emphasis and command

b. Speakers are listed in order of chronological age, from left to right, with their first initial.

c. Oswaldo did not take part in the story-retelling sessions designed to elicit quotative shifts.

Table 6: Examples of Conversational Functions of Code-Switching

1. Addressee Specification (Walter, A-09)

R: And Walter, how old are you?

W: Eleven.

R: You're eleven, too? How can you both be the same age?

W: Because we born, uh, MAMÁ ¿CUÁNDO NACIMOS? (Mama, when were we born?)

2. Formulaic Expressions (Zoe & Jesus, 2A-75)

R: Oh, ¿quieres que Jesus nos ayude con ese PUZZLE?
(Oh, do you want J. to help us with this puzzle?)

J: Si, mm (Yes, uh)

Z: Yo no sé. IT'S UP TO YOU. (I don't know. It's up to you.)

3. Echoing (Jesus & Zoe, B-37)

Z (picking up a paper doll): Ya está, pa' la DAUGHTER. (That's it for the daughter.)

J: La DAUGHTER..

Z: Y la hijita (And the little daughter.)

J: La hijita (The little daughter.)

4. Quotation (Zoe & R, 2B-156)

(Z is retelling the recorded story)

R (laughing): Y qué le hizo? (And what did she do to him?)

Z: Le quitó las cobijas. (She took the covers off him.)

R: Uh-huh.

Z: Y dijo, "You get up! You going to that picnic!"

5. Clarification and 6. Translation (Zoe & R, 1A-35)

Z: Mi DADDY está muerto (y substituted for the r of muerto) (My daddy's dead.)

R: Está ¿cómo? (He's what?)

Z: Está muerto. Está DIED. (He's dead. He's died.)

7. Questions (Jesus & Zoe, A-26)

R: ¿Conoces a Mike X ? (Do you know Mike X?)

J: No conozco a Mike X. ¿Quién es ése, WHO'S THAT? (I don't know M.X. Who is that?)

8. Modality Shift (Walter, A-232)

(W and his brother are playing dominoes. His brother has taken one away)

W: No, T! Put it back..

T: I got it! I got it! I got it!

W: No! VAS A VER, T. (Threatening tone) (You'll see, T.)